

## **An exploratory study on the reality of using psychometric tools in Master's memoirs in clinical psychology**

**Dr. HAMNACHE Leyla<sup>1</sup>, Prf. BENOSMAN BERRAHIL Djaouida<sup>2</sup>**

<sup>1,2</sup>Abou bekr Belkaid Tlemcen University (Algeria).

**The Author's E-mail:** [leyla.hamnache@univ-tlemcen.dz](mailto:leyla.hamnache@univ-tlemcen.dz)<sup>1</sup>, [djaouida.berrahil@univ-tlemcen.dz](mailto:djaouida.berrahil@univ-tlemcen.dz)<sup>2</sup>

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### **Abstract:**

This study aims to reveal the reality of the use of psychometric tools in a sample of master's dissertations at the University of Tlemcen, where (40) master's dissertations were identified within the speciality of clinical psychology, which were discussed during the academic year 2020-2021.

A network for evaluating the reality of the use of psychometric tools was adopted in the master's dissertations, and the results showed the following:

- Greater use of objective measurement tools compared to projective ones.
- The use of psychometric tools appropriate to the study's approach and sample in most of the dissertations studied.
- Respect the conditions for presenting measurement tools in the body of the study in most of the memoirs under study.

**Keywords:** Psychometric Instruments, Master's Dissertation, Clinical Psychology.

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### **Introduction:**

During the master's degree training stage, the student acquires a set of knowledge related to the specialization, in addition to knowledge related to research methodology, to build his prior knowledge that he can invest in preparing a graduation thesis that meets the methodological conditions, while relying on tools for collecting data from the field, including observations, interviews, psychological measures and tests that are appropriate to the nature of the study population and the sample of behavior studied. However, it may not be possible to provide standardized measurement tools in the Algerian environment, which makes the student resort in his studies to using foreign tests and translating them. Yet, this is not sufficient, as explained by Abbas and Muhallal (2016). Rather, it requires adapting them so that the composition of the test suits the cultural environment in terms of language, grading

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rules, the language of the instructions, the familiarity of the test, the equivalence of the methodology, the validity of the adapted test, the characteristics of the targets for the measurement, the test standards (Abbas and Muhallal, 2016). This is due to several cultural and linguistic considerations that make each target group its own specificity, which was also confirmed by Boussalem (2017) in his study on the cultural validity of the psychological tests applied in Algeria and the problem of adaptation for validity (Boussalem, 2017). Baibaa (2016) attributed the lack of standardized tests to several points, namely: the difficulty of adapting and translating them, the absence of appendices and manuals associated with them, the lack of training in them, the lack of cooperation of the subject, problems related to psychometric conditions, and the absence of bodies responsible for the design and standardization processes (Baibaa, 2016). On this basis, the current study aims to reveal the reality of the use of psychometric tools in graduation memoirs in terms of their nature, their suitability for the target group of the study, and the availability of methodological conditions related to its codification within the study. To achieve these goals, the exploratory approach was used as it was suitable for the proposal.

From this standpoint, the following question came: what is the reality of using psychological tests in the master's dissertations in Clinical psychology for the academic year 2020-2021?

**The theoretical aspect of the study:**

Psychometric tools are a set of tools that a specialist or researcher in psychology adopts for the purpose of diagnosis, evaluation, prediction or classification. It should be noted that they are means, not an end. In other words, they are tools upon which the specialist relies to verify the results of his observations and interviews. They are divided into assessment tools, psychological tests and measures, and this is what we will elucidate in this section.

### **Assessment tools:**

Assessment tools are those tools that use guesswork to determine the extent of the presence of a characteristic in an individual, which is less accurate than the scale. What comes to our minds is what is the benefit of these tools as long as they are less accurate? As an answer to this, they are used to collect observations, or as benchmarks for verifying the validity of external measurement tools in the event that it is not possible to construct objective measurement tools, given that the characteristic under study is not measurable, within one of these areas: performance assessment, production assessment, institution assessment, method assessment, normal/abnormal behavior assessment, self-esteem, and curriculum assessment (Maamria, 2012).

Assessment tools are divided into the following:

**Assessment lists:** They are used for the purpose of collecting and recording observations for evaluating a behavioral trait (Maamria, 2012), so that it includes a group of statements through which the subject chooses the most appropriate answer or answers, either by marking (X) or underlining the most suitable answer.

**Second: Assessment scales:** they are also applied to record observations, but they differ from Assessment lists in that they show the degree to which the characteristic is present in the individual, whether the assessment scale is numerical, descriptive, verbal graphic, descriptive graphic, or numerical descriptive graphic.

### **Psychological test:**

They are measuring tools that are more accurate than their predecessors are, and require the availability of quality standards within them, which differ from scale, test, and intelligence. The term scale is used when it is not possible to use the term test, and here we are in the process of an experimental psychophysical study related to characteristics such as perception, sensation... As for the test, it measures psychological and mental characteristics not expressed in physical units. As for intelligence, it is linked to measuring the basic traits and dimensions of personality, as it is a standardized interview.

Cronbach defined it as “a systematic method for comparing the behavior of two or more people”; As for English Dictionary (1958), it defined it as “a set of codified or controlled circumstances, presented in a specific system to obtain a representative sample of behavior in specific environmental conditions and requirements in the face of challenges that require the greatest effort or energy. These circumstances often take the form of verbal questions.”

Therefore, it is giving quantitative descriptions of the behavioral phenomenon, specifying the extent to which the characteristic is present in the individual, assuming that the same characteristic is present in all individuals, but in varying proportions.

Based on the theoretical foundation, we can find a comprehensive definition that defines psychological testing as an objective, standardized measurement tool for measuring a representative sample of behavior with the aim of determining the level of presence of a characteristic, diagnosis or prediction of the behavior, and it is answered either performativity, verbally, or with devices.

Through what was presented by Bachir Maamria (2022), we summarized the classification of psychological tests in the form of a mind map, as shown in the following figure:

This classification makes it easier for the researcher to determine the method of preparing measurement tools so that he can plan its specifications in terms of nature, aspects related to the formulation of items and responses, timing and method of codification.

### **Questionnaire:**

We can define it as a set of statements that are answered by respondents with the aim of collecting data about them regarding their opinions about a variable. It is considered as a means of collecting data about individuals quickly, and this is what makes it one of the most used tools in the social and psychological sciences.

The classification of the questionnaire can be summarized according to the nature of the questions and answers to:

**First: Classifying the questionnaire according to the nature of the statements:**

Closed questionnaire: includes statements that require specific answers.

Open questionnaire: which includes statements that allow the respondent to answer the subject of the study in an expanded manner without setting prior limits to it.

Closed/open questionnaire: This type combines the previous two types and includes a specific answer to the statement, followed by an explanation of that answer, for example.

Illustrated questionnaire: It is directed to children and illiterate people, as the statements presented are in the form of pictures.

**Second: Classification of the questionnaire according to the method of distribution:**

Direct: Both the researcher and the subject are present together while applying the questionnaire.

Indirect: The questionnaire can be sent by mail, e-mail, or in the form of an electronic questionnaire.

**Graduation memoir:**

It is a study completed by the student individually or in pairs under the supervision of a professor who represents the role of mentor for the research work, through which the student is trained in research and scientific thinking by investing the acquired knowledge in the methodology and standards of specialization by applying them in the field, and thus completing a research work that includes two parts. A theoretical part that reflect the student's involvement in the theoretical foundation of the topic and controlling the concepts, and an applied part that includes methodological procedures, presentation and discussion of the results obtained from the field.

The resolution No. 362 of June 09, 2014 specified the methods for preparing and discussing the master's thesis, specifying that the goal of preparing the master's thesis is linked to developing the student's abilities to: demonstrating, scientific thinking, deduction, explanation, and recording in an exploitable form. This will be within topics that are compatible with the field of training and the objectives of the research, and also compatible with economic and social development, which are proposed, approved and announced by the training team.

As with regard to the distribution of topics, the field head and specialization officials are responsible for it in coordination with the department head, and if necessary, the arrangement is respected.

In order for there to be unification of writing standards, the training team is responsible for setting

standards in terms of format, size, and deposit deadlines, which are announced to students in addition to the dates of discussions. They take place in two sessions, the first at the end of the year, while the second takes place in September, with the supervisor's justification for the reason for the delay. To achieve this, the field head and the specialization official, in coordination with the department head, appoint discussion committees consisting of a chairperson and an examiner. It may be necessary to include a second examiner, a rapporteur supervisor, and an assistant supervisor if the work requires that.

The discussion takes place publicly based on the memorandum evaluation and scoring grid determined by the college's Scientific Council, including the three axes (manuscript, oral presentation, and answering questions), and the discussion committee is considered to be the master of its decision.

### **Methodological procedures for the study:**

#### **Study Approach:**

Given the nature of the study, and taking into account its objectives, the appropriate method used is the exploratory approach to determine the reality of the use of psychometric

tools in the memoirs of the master's degree in clinical psychology.

### **Temporal and spatial framework of the study:**

The study was conducted in the Department of Psychology at the University of Tlemcen during the period between March 29 and April 03, 2021.

### **The study sample:**

With regard to this study, it consisted of the Master's dissertations in clinical psychology that were discussed during the academic year 2020-2021, estimated at (40) memoirs.

### **Tool of the study:**

The study tool was an evaluation network of the reality of the use of psychometric tools in the master's dissertations in psychology derived from the network for evaluation of Aris, Hammache (2018). This network covers the following dimensions:

- The nature of the measurement tools used: Here they were essentially determined to be either objective or projective.
- Suitability of measurement tools to the study approach: Adopting measurement tools that suit the proposed approach, for example, questionnaires are suitable for descriptive studies to collect data and analyse their results statistically, but they are not suitable for the clinical approach.
- Suitability of measurement tools for the study sample: Adopting psychological measurement tools that are appropriate to the characteristics of the sample, such as age, developmental characteristics, behavioral characteristics...
- Availability of conditions for presenting measurement tools in the body of the study: which are specified in the psychometric standards and the correction scale.

**Presentation and discussion of the results:**

**Presentation of study results.**

Within this element, we will present the results of the study as follows:

**Table 1.** shows the nature of the psychometric tools used in the master's memoirs in clinical psychology:

	<b>Objective test</b>		<b>Projective test</b>	
<b>The nature of measuring instruments used</b>	Frequency	%	Frequency	%
	05	12.5	35	87.5

Table No. (01) Shows that the objective test in Master 2 clinical psychology dissertations represents the highest frequency of (35), that is, a percentage estimated at 87.5 %. As for projective tests, their frequency is estimated at (05), and the percentage is estimated at 12.5 %. Therefore, objective tests are the ones that are used in the first place in the memoirs of Master 2 students of clinical psychology compared to projective tests.

**Table (02): shows the suitability of the psychometric tools for the study approach in the master’s memoirs in clinical psychology:**

Suitability of measurement tools to the study approach	Yes		No	
	Frequency	%	Frequency	%
	02	5	38	95

Table No. (02) shows that 95 % of the tests used in preparing Matser 2 clinical psychology memoirs suit the study approach with a frequency of (38) memoirs, and (2) memoirs used non fitting measurement tools with a percentage of 5%.

**Table (03): shows the suitability of the psychometric tools for the study sample in the master’s memoirs in clinical psychology:**

Suitability of measurement tools to the study sample	Yes		No	
	Frequency	%	Frequency	%
	40	10	00	00

Table No. (03) Shows that the tests used in preparing Matser 2 clinical psychology memoirs suit the study sample in terms of sample’s age and characteristics, and it is confirmed by the previous results with a frequency of (40) and a percentage of 100%.

**Table (04): Shows the availability of conditions for displaying measurement tools in the master’s memoirs in clinical psychology:**

Suitability of measurement tools to the study sample	Yes		No	
	Frequency	%	Frequency	%
	39	72	11	27.5

  

Suitability of measurement tools to the study sample	Yes		No	
	Frequency	%	Frequency	%
	36	90	04	10

From Table (04), it is clear that the percentage of psychological tests employed in the master's clinical psychology memoirs, within which a presentation of the psychometric standards for the used measurement tools was presented, was estimated at (29) tests, with an estimated percentage of 72.5%, and (11) memoirs did not include a presentation of its criteria with an estimated ratio of 27.5%.

Regarding the availability of the correction scale, we find that (36) memoirs included the correction

scale of measurement tools at a rate estimated at 90%, while (04) memoirs did not include the correction scale at a rate estimated at 10%.

**Discussion of the study results:**

From the results presented previously, we can attribute the use of objective measurement tools primarily in master's dissertations in clinical psychology to the use of the descriptive approach, which relies on the concept of quantification, which is intended to transform qualitative data into quantitative data that can be measured by relying on statistics. It should be noted here that most of the psychological measurement tools available in the department are not compatible with the variables of the studies covered, in addition to the fact that students tend to use questionnaires in the first place compared to the remaining psychological measurement tools on the other hand. This is due to the fact that questionnaires are easier to

use in terms of application and correction, especially since the period in which the studies were completed coincided with Covid-19 epidemic as precautionary measures were taken, and it was difficult to obtain approval to conduct field studies in some institutions. We also cannot ignore the reluctance of students to adopt projective tests due to the lack of skills related to applying them and analysing their results.

We attribute the result related to the use of measurement tools that are appropriate to the

curriculum and sample of the study to the fact that the student, during the stage of preparing the master's thesis, receives methodological guidance from the supervisor, which is in the form of supervision sessions during which the measurement tools that can be used are clarified, in addition to the conditions that must be met in them to be appropriate for the subject. The study and the specificity of those targeted by the measurement, and not only this, but it goes beyond the students' previous studies that dealt with the variables of the study, from which they derive ideas about how to approach the subject on the one hand and the tools used on the other hand. Thus, most of the measurement tools used in the study memoirs are appropriate to the population and samples of the studies covered, which is consistent with the study of Khouiled, Jaafour (2016) that most students and psychology specialists respect the ethics of administering psychological tests and the conditions for their application vary, while fully supporting them in creating an ethical charter capable of defining the rights and duties and preserving the dignity of each party in the process, which requires strengthening university training in this regard.

We observe the availability of the element of presenting measurement tools in the text of most of the master's dissertations studied, with an explanation of its psychometric standards, whether they are codified to the Algerian environment, adapted to the Algerian environment, or foreign. This is due to it being considered a necessary methodological procedure that the supervising professors seek to provide to train the student in searching for acceptable or good measurement tools on the one hand, and to be a reference for those consulting the study on the other hand. As previously mentioned, during the completion of his studies, the student, in addition to the directions received from the supervisor, undertakes previous studies that make him pay attention to the element of presenting study tools in general and to measurement tools in particular, which must include a definition of the tools and a presentation of their

psychometric standards. The same applies to the availability of a correction scale in the part that includes the presentation of the study tools. However, we recognize in the results that 27.5% of the notes under study did not provide a presentation of the psychometric standards for the approved measurement tools, and 10% of them neglected to include the correction scale for these tools, and this is among the methodological error that prevents understanding the method of application and correction.

We notice during the studies the adoption of measurement tools taken from previous studies whose psychometric standards were calculated, whether in the Algerian environment on small samples, or within other environments, or sometimes resorting to recalculating their psychometric standards without adjusting the codification conditions. The matter here is not limited to the construction, but rather extends to the adaptation process, which calls for a set of points explained by Baibaa (2016) in the following points: The lack of standardized measurement tools for several points, including the difficulty of translation and adaptation in light of the absence of evidence and appendices associated with them, not to mention the lack of training on them, or the lack of cooperation of the examinees, in addition to the problems associated with psychometric standards... Abbas, Muhallal (2016), and

Boussalem (2017) also confirmed that adapting measurement tools is not limited to the process of translating or modifying items linguistically and calculating psychometric standards, but rather extends to the need to pay attention to the cultural validity of these measurement tools on the one hand. On the other hand, the student or researcher in psychology must be familiar with the characteristics and conditions for applying measurement tools, correcting them, and interpreting scores and responses after verifying that the measurement tools used are suitable to measuring the studied characteristic, and the characteristics of those targeted for measurement.

### **Conclusion:**

Our study addressed the issue of the reality of the use of psychometric tools in a sample of clinical psychology memoirs discussed during the university year 2020-2021, estimated at (40) graduation memoirs. The exploratory approach was adopted, where a network to evaluate the reality of the use of psychometric tools in master's dissertations in psychology was used,

derived from Aris, Hammache (2018) Evaluation Network. In this study, we concluded that objective measurement tools are the most commonly used tools in master's dissertations because of the ease of applying them and interpreting their results. The students also adopted tools that are appropriate for the samples of studies presented, and they also respected, in most studies, the methodology for presenting measurement tools in terms of definition, identification of psychometric standards, and a correction scale. However, we must not overlook some violations in the methodological procedures of scientific research because of their impact on the presentation of the studies. On this basis, greater importance must be given to the applied methodological training that allows the student to practice using measurement tools and not be limited to theoretical treatment of them.

We also recommend conducting training courses and workshops on the ethics of building and applying measurement tools.

Finally, we suggest conducting studies on larger samples in several specializations in psychology in order to understand the shortcomings and to propose solutions and correct them.

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